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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,369	06/19/2001	Mohammad Laham	312/3	1792

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EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/884,369

**Applicant(s)**

LAHAM ET AL.

**Examiner**

David C. Payne

**Art Unit**

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2001.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-42 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-27 and 30-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhalla et al. US 6,301,402 B1 (Bhalla) in view of Davies et al. US 6,215,565 B1 (Davies).

Re claims 1, 11, 17, 21, 25 and 36,

A maintenance system for an optical switch fabric in an optical network through which an optical traffic signal is conveyed via an optical traffic channel, said maintenance system comprises: a generator (see Figure 1 #13) for generating an optical test signal (see Figure 1 #13); a multiplexer (see Figure 1 #15) for optically multiplexing said test signal with said traffic signal to form a composite signal, said composite signal being conveyed through said switch fabric (see Figure 1 #21) via said optical traffic channel;

Bhalla does not disclose a demultiplexer for optically demultiplexing said composite signal into said test signal and said traffic signal after it comes out from said switch fabric; means for measuring quality of said test signal and said traffic signal output from said demultiplexer.

Davies disclosed a means for measuring quality of a test signal through a cross connect device (Figure 1 #23) at an optical performance monitor (OPM) (#37).

It would have been obvious to one of ordinary skill in the art at the time of invention to that a demultiplexer could be used in place of the 4% Tap (#23) in Bhalla to separate out the test signal since a multiplexer was used to create the composite signal a demultiplexer is a natural choice to separate out the test signal from the composite signal. Davies disclosed a means for measuring quality of said test signal and said traffic signal output (see Col. 4, lines 35-47).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the Davies OPM for the benefit of diagnosing possible component failure as disclosed by Davies (see Col. 2, lines 10-15).

Re claim 15, the modified invention of Bhalla and Davies disclosed generating an optical test signal; when there is an incoming optical traffic signal (see Bhalla Col. 4, lines 30-35).

Re claims 25, 30 and 41, the modified invention of Bhalla and Davies disclosed a means for selecting an input port and an output port of said switch fabric, forming an internal fabric test path to be measured; means for transmitting said test signal through said test path (see Col. 3, lines 60-67, Col. 4, lines 1-15).

Re claims 7, 13, 14, 18, 23, 24, 26, 27, 31, the modified invention of Bhalla and Davies does not disclose selecting between a real-time maintenance mode and a background maintenance mode. However, Bhalla does disclose that the test can be run when there is not customer traffic (see Col. 1, lines 58-61) or during a time when

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there is customer traffic (see Col. 4, lines 30-35). It would have been obvious to one of ordinary skill in the art at the time of invention that these two cases are real-time mode and background mode base on the applicant's description and the general accepted meanings of the terms used.

Re claims 2, 16, and 39, the modified invention of Bhalla and Davies disclosed a means for sending a sample probe signal (see Bhalla Figure 1 #23) to said quality measuring means.

Re claims 3 and 19, the modified invention of Bhalla and Davies disclosed a means for receiving and analyzing said measured quality of test and traffic signal so as to determine a fault source when said demultiplexed traffic signal is found to be defective (see Davies Col. 2, lines 10-18).

Re claims 4 and 20, the modified invention of Bhalla and Davies disclosed means for further transmitting said customer traffic signal to its destination along said traffic signal channel (see Bhalla Figure 1 #29).

Re claim 5, the modified invention of Bhalla and Davies disclosed means for dropping said test signal (see Bhalla Figure 1 #23).

Re claims 6 and 22, the modified invention of Bhalla and Davies disclosed wherein said quality measuring means is one or more optical performance monitors (see

Davies Col. 4, lines 1-7).

Re claim 8, the modified invention of Bhalla and Davies disclosed wherein said switching fabric conveys said composite signal according to addressing information of said traffic signal (see Bhalla Col. 4, lines 1-10).

Re claims 9 and 37, the modified invention of Bhalla and Davies disclosed a splitter (Bhalla Figure 1 #23) for splitting said multiplexed composite signal into two divided composite signals.

Re claims 10, 12 and 38, the modified invention of Bhalla and Davies does not disclose a means for conveying said two divided composite signals through said switch fabric via two separate traffic signal channels. It would have been obvious to one of ordinary skill in the art at the time of invention to select and direct the test signal and the traffic signal to separate ports for the benefit of monitoring all test signals a well define port and not duplicating test equipment at each port.

Re claim 40 and 42, the modified invention of Bhalla and Davies disclosed means for sending said two demultiplexed test signals to said quality measuring means (see Col. 4, lines 35-47).

Re claims 32-35, the modified invention of Bhalla and Davies does not disclose shifting between real-time and maintenance mode. However, it would have been

obvious to one of ordinary skill in the art at the time of invention to operate between the two modes since Bhalla disclosed (see Col. 1, lines 55-60) operating in either mode and would therefore require switching between modes to operate in either one as disclosed by Bhalla.

3. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhalla et al. US 6,301,402 B1 (Bhalla) and Davies et al. US 6,215,565 B1 (Davies) as applied to claims 25 and 27 above, and in further view of Czerwiec et al. US 5,301,050 (Czerwiec).

The modified invention of Bhalla and Davies does not disclose testing on a periodic or predetermined priority scheme. Czerwiec disclosed testing of an ONU on such as basis (see Col. 9, lines 45-52 and Col. 10, lines 15-20). It would have been obvious to one of ordinary skill in the art at the time of invention to run test on a periodic basis since failures generally occur rarely and testing on a continuous basis slows system performance unnecessarily. Furthermore, priority testing of ports allows the performance monitor to direct attention to ports that have a greater impact on customer service first before attending to less impacting ports.

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***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fatehi et al. US 6,600,581 B1 disclosed a connection verification of optical cross-connects.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
JASON CHAN  
SUPERVISORY PATENT EXAMINER  
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